

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in and relating to a Dental Angle-miller

We, SODECO SOCIETE DES COMPTEURS DE GENEVE, a Body Corporate organised under the laws of Switzerland, of Grand Pré, Geneva, Switzerland, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

- 10 Dental angle-millers of known construction comprise a handle in which revolves a shaft or axle terminating in a driving pinion, which meshes, generally at an angle of 90 degrees, with a pinion attached to a hollow tool-holder, revolving in a cylindrical recess in the angle-miller head. In order that it may be maintained in its axial position, the tool-holder carrying the pinion abuts, when in position in the recess in the head, against a rear bearing, whereas the front bearing consists of a nut abutting against a shoulder on the end of the hollow member, the diameter of which at this place is smaller than that of the pinion. In another design, where the height of the head is reduced to a minimum, the head is cut along a medium plane at right angles to the hollow tool-holder, the two halves forming front and rear abutment bearings for this hollow member. This design presents serious constructional difficulties in order to obtain perfect fitting of both halves of the head side by side.

- The present invention does not make use of either of these two methods of retention and abutment of the tool-holder. It relates to an improved dental angle-miller, comprising a head with a cylindrical recess in which there revolves a hollow tool-holder presenting a toothed crown meshing angularly with a pinion carried by the driving shaft, the invention being characterised by the features that the hollow tool-holder, when the milling tool is removed from the holder, is retained solely by a circular shoulder bearing against the pinion teeth, and that the fore part of the head is obturated solely by the fore part of the tool-holder, the diameter of

which is at least equal to that of the toothed crown.

The accompanying drawing represents a longitudinal section of the angle-miller. The driving axle 1 revolves in the handle 2 of the angle-miller shown in part, and is actuated by a clutch coupled with a rotating transmission member. Its end, extending out of the head 7; it does not present any driving pinion 4 meshing generally at an angle of 90° with the pinion 5 attached to on the hollow tool-holder 14 rotating in the cylindrical recess 15 in the head 7. The end 6 of the hollow tool holder is of a diameter slightly larger than that of pinion 5 and of the same diameter as that of the recess 15 in the head 7; it does not prevent any shoulder, the axial abutment in both directions being realised solely by the grove 10 cut in the tail of the miller 16 into which engages the key 11, the miller being driven as usual by a flat part 9 engaging into an aperture in shape of segment provided in the rear part of the hollow axis.

In the case where the tool-holder rotates without any miller, for example during its cleaning in an anti-septic liquid, a collar 8 retains it axially, by the fact that its diameter extends over the periphery of the driving pinion 4, which forms abutment and from which it is separated by a very small space.

In order to permit taking the hollow tool-holder 14 easily out of its recess, a threaded sleeve 12 engaging a threaded part 13 of the handle 2 and a shoulder on an extension 3 of the head 7 enables the head to be released, thus causing the separation of the driving pinion 4 from the collar 8 and from the pinion 5 of the tool-holder.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. Dental angle-miller comprising a head with a cylindrical recess in which revolves a hollow tool-holder presenting a toothed crown meshing angularly with

a pinion carried on the driving axle, characterised in that when the milling tool is removed from the holder the hollow tool-holder is retained solely by a circular shoulder bearing against the pinion teeth, and that the fore part of the head is closed solely by the fore part of the tool-holder whose diameter is at least equal to that of the toothed crown.

2. Dental angle-miller according to claim

1, characterised by the fact that the separation of the driving pinion from the pinion of the hollow tool-holder axis is obtained by removing the head of the angle-miller from its handle the head being normally retained in position by means of a threaded sleeve engaging on a threaded part of the handle of the angle-miller.

Dated this 23rd day of January 1945.

MARKS & CLERK

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587,856 COMPLETE SPECIFICATION

1 SHEET

[This Drawing is a reproduction of the Original on a reduced scale.]

